

CLAIMS

- Sub A2
1. An apparatus performing the addition of a PKG recoded number, said apparatus comprising:
 - a circuitry configured to receive at least a first value and a second value, wherein said second value is a PKG value; and
 - wherein said circuitry generates a sum value and a carry value.

- Sub A1
2. The apparatus of claim 1, wherein said sum value and said carry value are dual rail encoded values.

- Sub A3
3. The apparatus of claim 1, wherein said circuitry further comprises:
 - a first adder configured to add said first value and said second PKG value, said first adder generates a PKG value and a carry-out value.

- Sub B27
4. The apparatus of claim 3, wherein said circuitry further comprises:
 - a second adder configured to add said PKG value from said first adder and a carry-in value.

- Sub A4
5. The apparatus of claim 3, wherein said first value is a PKG value.

1 6. The apparatus of claim 1, further comprising:
2 a recoder configured to convert at least one dual rail encoded value
3 into said second PKG value.

1 7. A method for performing the addition of PKG recoded
2 numbers, comprising the steps of:

3 receiving a first value;
4 receiving a second PKG value; and
5 generating a sum value and a carry value from said first value and
6 said second PKG value.

1 8. The method of claim 7, further comprising the steps of:
2 adding said first value and said second PKG value;
3 generating a first result PKG value from said adding; and
4 generating a first carry-out value from said adding.

1 9. The method of claim 8, further comprising the steps of:
2 adding said first result PKG value and a carry-in value;
3 generating a final sum value from said adding; and
4 generating a final carry-out value from said adding.

10. The method of claim 9, wherein said final sum value and said final carry-out value are dual rail encoded values.

Sub A5

1 20. A method for performing the addition of PKG recoded
2 numbers, comprising the steps of:
3 receiving a first PKG value;
4 receiving a second PKG value; and
5 generating a PKG sum value and a carry value from said first PKG
6 value and said second PKG value.

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